PTC/SB/08A (10-95)
Approved for use through 10/31/99, OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Comple	ete if Known
Application Number	09/887,606
Filing Date	June 22, 2001
First Named Inventor	Scarpino, F.
Group Art Unit	_
Examiner Name	
Amarana Danisa Niverbar	

Sheet I of

Attorney Docket Number TRD021IA

			U.S. PATENT DOCU	JMENTS	
Examine Initials*	Cite No. ¹	U.S. Patent Document Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relavant Passages or Relevant Figures Appear
<u></u>		1,855,054	Johnson	04/19/1932	
		3,243,511	Erdman et al.	03/29/1966	
		3,370,125	Shaw et al.	02/20/1968	
		3,499,988	Watanabe et al.	03/10/1970	
		3,659,056	Morrison et al.	04/25/1972	
		3,985,977	Beaty et al.	10/12/1976	
		4,079,295	den Hollander	03/14/1978	
		4,275,267	Kurtin et al.	06/23/1981	
$\Box \bot$		4,323,736	Strickland	04/06/1982	
		4.490.844	Sohn	12/25/1984	
L.		4,589,133	Swinbanks	05/13/1986	
		4.621.203	Sweeny	11/04/1986	
		4,692,852	<u>Hoover</u>	09/08/1987	
		4.734.897	Schotz	03/29/1988	
		4,748,669	Klayman	05/31/1988	
		4,845,758	Op de Beek et al.	07/04/1989	
		4,866,774	Klayman	09/12/1989	
ot		5.161.131	Borchardt et al.	11/03/1992	
		5,179,623	Dickopp et al.	01/12/1993	
V		5,185,805	Chiang	02/09/1993	

				FORE	IGN PATENT DOCUMENT	rs		
Examiner Initials*	2::-	F	oreign Patent Do	cument	Name of Patentee or	Date of Publication of	Pages, Columns, Lines,	Τ
	Cite No. ¹	Office ³	Number ⁴	Kind Code ⁶ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	7
								Ļ
								Ļ
						 	· · · · · · · · · · · · · · · · · · ·	╀
		-						+
		 - -				 		+
		 	 		·		-	╁
				+-+				十
			***					T
								T

Examiner	/)	/	/	Date I	. 1
CAMILLE	11 1	$\Delta \lambda$		00.0	 /- / -
Signature	11 - 4	///. / /	1 I	Considered I	11/1/1/
Cignatore	Wall	1 July		000.00.00	

*EXAMINER: Millel'il reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Coclude copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

DEC 0 7 2001

TRADEM

Sheet

Please type a plus sign (+) inside this box

+ Approved for use through 10/31/99. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

of

Comple	te if Known	`
Application Number	09/887,606	
Filing Date	June 22, 2001	
First Named Inventor	Scarpino, F.	
Group Art Unit		
Examiner Name		
Attorney Docket Number .	TRD021IA	

U.S. PATENT DOCUMENTS U.S. Patent Document Date of Publication of Pages, Columns, Lines. Cite Name of Patentee or Applicant Where Relevant Kind Code² Cited Document Initiats' No.1 of Cited Document Number Passages or Relevant MM-DD-YYYY (if known) Figures Appear 5,223,657 Takeuchi 06/29/1993 <u>5,235,671</u> 08/10/1993 Mazor 5,278,780 01/11/1994 Eguchi 5,323,467 06/21/1994 Hermes 5,361,306 11/01/1994 Garcia 5,371,803 12/06/1994 Williamson, III 5,406,634 04/11/1995 Anderson et al. 5,416,847 05/16/1995 Boze 5.442.712 08/15/1995 Kawamura et al 5.483.619 01/09/1996 Blanchard 5,506,910 Miller et al. 04/09/1996 5.515.446 Velmer 05/07/1996 <u>5,537,477</u> Gauthier et al 07/16/1996 5.627.899 Craven et al 05/06/1997 5,698,807 12/16/1997 Massie et al 5,819,215 10/06/1998 Dobson et al. 10/20/1998 <u>5,825,830</u> Kopf 5.828.755 10/27/1998 Feremans et al 5,823,443 Kolesnik et al. 11/03/1998 5,832,444 Schmidt 11/03/1998

				FORE	IGN PATENT DOCUMENT	rs		
S	C:2-	F	oreign Patent Do	cument	Name of Patentee or	Date of Publication of	Pages, Columns, Lines,	Т
Examiner Initials	Cite No.1	Office ³	Number	Kind Code ⁵ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Where Relevant Passages or Relevant Figures Appear	T8
								
		L I						
								I
					·			
L						ļ		
						ļ		
				11		L. I		

Examiner Signature	A Mill	Date Considered 7/20/05

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial/fi reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. Skind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (+) Inside this box + (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of Information unless it contains a yalld OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet of

		III NOT-			
Complete if Known					
Application Number	09/887,606				
Filing Date	June 22, 2001				
First Named Inventor	Scarpino, F.				
Group Art Unit					
Examiner Name					
Attorney Docket Number	TRD021IA				

					U.S. PATENT DOC	UMENTS	
Exam Initial			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear		
1	$\overline{}$		5,873,00	65	Akagiri et al.	02/16/1999	
			5,881,1	57	Lee et al.	03/09/1999	
			5,881,3	17	Hampsten et al.	03/09/1999	
		_	5,892,83	30	Klayman	04/06/1999	
			5,893,00	65	Fukuchi	04/06/1999	
			5,910,90	04	Uramoto	06/08/1999	
П	\Box		5,928,3	11	Leavy et al.	07/27/1999	
			5,944,6	72	Kim et al.	08/31/1999	
			5.987.4	17	Heo et al.	11/16/1999	
			6.041.30	02	Bruekers	03/21/2000	
			6,055,50	02	Kitamura	04/25/2000	
			6.058.19	94	Gulli et al.	05/02/2000	
			6,111,18	81	Macon et al.	08/29/2000	
			6.111.90	60	Aarts et al.	08/29/2000	
2	-		6,275,59	93. B1	Garcia et al.	08/14/2001	
1	-]		08/472,8	76	Garcia et al.		
}	$\overline{1}$		08/909,8	07	Garcia et al.		
۲	-I		08/989.3	73	Garcia et al.		
Ś	$\overline{}$		09/431,3	71	Scarpino et al.		
_	T						

					FOR	EIGN PATENT DOCUMENT	S		
Examiner Inilials'	Cite No.1	Office ³	Foreign Patent Docu Number ⁴	Kin	d Codes tnown)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	⊤ 6
3		DE	20 25 844	1	Α	Mangelsdorff	12/02/1971	T MOTOS ADDOS	
		DE	41 34 578	1	Al	Moller	04/29/1993		Т
		EP	0 817 045	/	A2	Sun Microsystems Inc	01/07/1998		Π
		JP*	11-086008		Α	Matsushita Electric	10/26/1989	*(Abstract)	
		JP*	23-011006		Α	Pioneer Electron	03/13/1991	*(Abstract)	
		GB	2 137 427		Α	McCulloch Corporation	10/03/1984		
		WO	99/30414		Αl	True Dimensional Sound	06/17/1999		
		wd	01/13515		ΑL	True Dimensional Sound	02/22/2001		
		wo	01/43118		Αl	True Dimensional Sound			
	ľ	wo	01/50598		A2	True Dimensional Sound	07/12/2001		

Examiner	// A	n II	Date	7/2/1/2
Signature	and 0 !	much	Considered	114/65

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the Individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please type a plus sign (VS)side this box → LS.

Under the Paperwork Reduction April of 1995, the persons

PTO/SB/088 (10-96)
Approved for use through 10/31/99. OMB 0551-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
cons are required to respond to a collection of information unless it contains a valid OMB control number.

Under the Paperwork Reducts Complete if Known Substitute for form 1449B/PTO 09/887,606 **Application Number** INFORMATION DISCLOSURE Filing Date June 22, 2001 STATEMENT BY APPLICANT **First Named Inventor** Scamino, F Group Art Unit (use as many sheets as necessary) **Examiner Name** of Attomey Docket Number Sheet TRD021IA

	_	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	_
Examiner nitials	hitals' No.1 nem (book, magazine, bothat, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		ŀ
Υ,		LAWRENCE R. RABINER; "Techniques for Designing Finite-Duration Impulse-Response Digital Filters"; IEEE Transactions on Communication Technology; April 1971, pages 188-195; Vol. 19, no. 2; IEEE Inc. New York	
		GARY A. NELSON, et al.; "High-Speed Octave Band Digital Filtering"; IEEE Transactions on Audio and Electroacoustics; March 1972, pages 58-65; Vol. 20, No. 1; IEEE, Inc. New York	
		JOHN MARKUS; Modern Elecronic Circuits Reference Manual; 1980, pages 53, 60 and 61; McGraw-Hill Book Company, New York	
		"Circuit 231: Entzerrer"; 273 SCHALTUNGEN, 1980, pages 174, 175; Elektor Verlag GmbH, Gangelt Germany	
		FRANK A. SCARPINO; "Discrete Fourier Transform and Closed Form Fourier Series Digital Filters with Controlled Intersymbol Interference"; Dissertation Submitted to the School of Engineering; August 1987, pages 116-123; University of Dayton, Dayton Ohio	-
			-
			_

Examiner Signature	A Mille	Date Considered 712/0	5

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.

AUS 1 2002 Processe type a plus sign (+) inside this box -

PTO/SB/08A (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of

Сотр	lete if Known	
Application Number	09/887,606	
Filing Date	June 22, 2001	
First Named Inventor	Frank A. Scarpino	
Group Art Unit	2644	
Examiner Name		
Attorney Docket Number	TRD 021 IA	

				U.S. PATENT DOC	UMENTS	1
Examiner Initials	Cite No.1	U.S. Paten Number	Kind Code ²	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
2		4,179,6		Dodson et al.	12/18/1979	
		4,972,4		Oki et al.	11/20/1990	
		5,230,0		Sakata	07/20/1993	
		5,388,1		Sakata	02/07/1995	
			\rightarrow		 	
						
			- - 		 	
						RECEIVED
				· · · · · · · · · · · · · · · · · · ·	-	AUG 1 4 2002
						HUG 1 4 2004
						Technology Center 2500
					1 1	

			oreign Patent Do	current	IGN PATENT DOCUMENT	Date of Publication of	Pagas, Columns, Lines,	Т		
Examiner Initials	Cite No.1	Office ³	Kind Code ⁵ Applicant of Cited Door		Applicant of Cited Document	nt Cited Document Pessages or Retevant Figures Appear				
						 		╁		
		\vdash				 		╁╴		
								Ţ		
		\vdash	·····			 		╁		
								I		
		-						╀		
								_		

	A STATE OF THE STA	
Examiner Signature Adul	Date Considered 7/20/05	

*EXAMINER: Intition if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

+

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁵ Applicant is to place a check mark here if English language Translation is attached.

Please	type	а	phys	sign	(+)	inside	this	pox	→	+

of

Sheet

PTO/SB/08A (10-96) Approved for use through 10/31/99. OMB 0651-0031

TRD 021 IA

Under t	he Paperw	ork Reduction Act	of 1995, no	persons are required to re		ffice: U.S. DEPARTMENT OF COMMERCE ass it contains a valid OMB control number.
	Substitu	te for form 1449A	/PTO		Comp	lete if Known
J					Application Number	09/887,606
Ar.				CLOSURE	Filing Date	June 22, 2001
12/	STA	TEMENT	BY A	PPLICANT	First Named Inventor	Frank A. Scarpino
بر 3	}				Group Art Unit	2644
À		(use as many	sheets as n	ecessary)	Examiner Name	
- 8₹	Sheet	1	of	1	Attorney Docket Number	TRD 021 IA

				U.S. PATENT DOC	JMENTS	
Examiner Initials	Cite No.1	U.S. Paten Number	Kind Code ²	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Cohrmns, Lines, Where Relevant Passages or Relevant Figures Appear
2		5,850,4	53	Klayman et al.	12-15-1998	
		<u> </u>				
						RECEIVED
						JAN 2 3 2003
						Technology Genter 26

				FORE	IGN PATENT DOCUMEN	TS		\neg
Examiner	Cite		Foreign Patent Do		Name of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Initials	No.1	Office ³	Number ⁴	Kind Code ⁵ (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T 6
			***	- - 		-		┼╌┨
<u> </u>								┼┤
								口
<u> </u>		\vdash		- - 				+
			· · · · · · · ·					+
 		\vdash			 	-		igspace
						<u> </u>		\perp

Examiner Signature Date Considered 7/2/15			
	Examiner	1 60	Date 0/2/
	i Signature i 1		Considered / W/

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231.

DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Inotate copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Please typ	e a	otus	sion	(+)	inside	this	box	-	4
				٠,				-	

PTO/SB/088 (10-96)
Approved for use through 10/31/99. OMB 0651-0031
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Substitute	for form 1449B/PT	0		Comple	te if Known	RECEIV	VE
		-	01.001155	Application Number	09/887,606		
INFO	RMATIO	N DIS	CLOSURE	Filing Date	June 22, 2001	JAN 2 4	. 20
STAT	EMENT	BY AF	PPLICANT	First Named Inventor	Scarpino, F		
• • • • • • • • • • • • • • • • • • • •				Group Art Unit	2644	echnology Cer	nter
	(use as many .	sheets as	necessary)	Examiner Name			
Sheet	1	of	1	Attomey Docket Number	TRD 021 IA		

		Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	Т
xaminer nitials	Cite No.1	item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
2		"Circuit 16: Telefon-Mithorgerat"; 300 SCHALTUNGEN, 1979, page 15; Elektor Verlag Gmbh, Gangelt Germany	
de		"Circuit 93: Mithorverstarker fur das Telefon"; 273 SCHALTUNGEN, 1980, page 75; Elektor Verlag Gmbh, Gangelt Germany	
		010 8	١
		JAN 1 6 2002 S ORIGINALLY FILED	
		No. OF WEST OF	
			_

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

¹ Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.